DOCUMENT RESUME

ED 150 693 EA 010 324

AUTHOR	Hyman, James B.
TITLE	Suggested Future Initiatives in Educational Finance. Rand Paper Series 5980.
INSTITUTION	Rand Corp., Santa Monica, Calif.
PUB DATE	Aug 77
NOTE	18p.
AVAILABLE FROM	The Rand Corporation, 1700 Main Street, Santa Monica, California 90406 ($1.50)
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	*Educational Finance; Elementary Secondary Education; *Equal Education; *Equalization Aid; Expenditure Per Student; *Federal Aid; *Finance Reform; Measurement Techniques; Resource Allocations; School Systems; *State Aid

ABSTRACT

The purpose of this paper is to provide brief sketches of a variety of issues for consideration by the National Institute of Education as new or continued initiatives in future planning to understand educational finance and equity. The issues are categorized under four general areas of concern--equity issues (cost of education indexes; fixed charges and school resource equalization; interaction of federal, state, and local education funds; and interdistrict disparities), impact issues (capitalization effects of school finance reform and finance reform and student outcomes), response issues (education reform opportunity cost and district responses to finance reform), and measurement issues (measuring finance reform and alternative measures of district wealth). Three additional areas of concern have been pulled out of the above four categories for special emphasis--the urban question, collective bargaining, and the cost and financing of special education. (Author/IRT)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED150693

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SUGGESTED FUTURE INITIATIVES IN EDUCATIONAL FINANCE

James B. Hyman

August 1977

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Rand

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

EA 010 324

P-5980

The Rand Paper Series

Papers are issued by The Rand Corporation as a service to its professional Staff. Their purpose is to facilitate the exchange of ideas among those who share the author's research interests; Papers are not reports prepared in fulfillment of Rand's contracts or grants. Views expressed in a Paper are the author's own, and are not necessarily shared by Rand or its research sponsors.

The Rand Corporation
Santa Monica, California 90406

INTRODUCTION

Since the Serrano Decision of 1971 much effort has been expended by researchers, state legislators and the courts in attempts to define and refine what is meant by equality of educational opportunity in the context of education finance. And though our understandings of educational finance and equity are far more sophisticated as a result of these efforts, we are still far from reaching closure on these issues. The purpose of this paper then is to provide brief sketches of a variety of issues for consideration by the National Institute of Education as new or continued initiatives in future planning. These issues are categorized under four general areas of concern as follows: equity issues, impact issues, response issues, and measurement issues.

Two caveats must be mentioned at the outset. First, these four issue areas should by no means be construed as mutually exclusive. The categorizations herein stated have been made for convenience. Many others are possible. Neither, secondly, should these areas and specific topics be viewed as collectively exhaustive of viable directions for future NIE initiatives. Many more concerns exist than are reflected in these pages.

EQUITY ISSUES

At base, education finance reform is a matter of equity. But because so little is known about the causal relations underlying student achievement and affective development our notions of equity are constrained to a consideration of inputs to, as opposed to outcomes of the educational process. So long as the concept of equal educational opportunity focuses on the vertical and horizontal distributions of resources per child the following issues are imperatives.

Cost of Education Indices

One of the major concerns of recent state finance reform efforts has been narrowing interdistrict disparities in per pupil expenditures. What has now been recognized by state legislators is that some variation in expenditure per pupil may indeed be warranted by interdistrict variations in the cost of providing educational services. Equal expenditures per pupil statewide is not synonymous with equal resources because of cost-based differences in the real value of the educational

dollar across districts.

Variations in teachers' salaries for given levels of training and experience are the primary cause of these cost variations and, since teachers' salaries typically account for 70 to 75 percent of current operating expenses, research on cost of education indices has focussed on constructing indices of teacher prices. Researchers in this area tend to agree that teacher price indices can be constructed only through econometric estimations of teacher supply functions. The question being raised here is what is the minimum wage a district must offer to attract a teacher of a given level of quality. Theoretically, that minimum wage will vary across districts in accordance with teacher responses to variables such as district amenities and working conditions, student characteristics, the cost of living and so on.

But there are at least three poignant arguments which tend to invalidate this approach. The first two are methodological, and the last is conceptual. The two methodological questions concern 1) separating supply influences from demand influences on teacher wages and 2) controlling for teacher quality. Supply influences on the teacher wage are influences for which districts are forced to compensate teachers such as a high cost of living and/or poor working conditions. By contrast, demand influences on teacher wages reflect district preferences for particular levels of spending. Allowing demand variables to enter the estimations would allow districts which prefer to pay high teachers salaries to be compensated through the index. Our agenda, however, is to measure and compensate for higher salaries that some districts are constrained to pay to maintain a quality teaching staff. Separating these two influences on teachers' salaries presents a major problem because many of the supply side variables also exert influences on the demand side. As an example, district wealth is generally considered a demand variable but to the extent that a positive correlation exists between district wealth and the district's cost of living it can also exert a supply influence.

Controlling for variations in teacher quality also presents a problem for teacher price index construction. Data limitations

constrain researchers to use experience and training as teacher quality variables but these variables are not sufficiently definitive of teacher quality.

But an even more damaging argument against this approach lies in its assumption of a free, competitive teacher labor market that is in equilibrium (i.e., that the quantity of teacher labor demanded equals the quantity supplied at the prevailing wage rate)., That the teacher labor market is not in equilibrium is evinced by the persistent and growing teacher surpluses we have seen since the early 1970's. These surpluses imply that teachers face a "buyers market" in which the wage premium this approach hypothesizes and attempts to estimate should not even exist.

Still, teachers' salaries are the primary cause of differentials in educational cost and attempts must be made to capture the dynamics of those differentials. Perhaps a proper formulation would involve the modelling of union influences on district incremental budgeting practices. But whatever the proper formulation, it is clear that this line of research is of great import to educational finance.

Additionally, educational cost indices must be expanded beyond the teacher price focus to include specific attention to economies of scale, non-teacher instructional expenditure, fixed charges, transportation and capital expenditure. Pursuing cost adjustment research should result in an acceptable cost of education index which would allow for comparisons of real resources within states for both general purpose and categorical funds.

Comprehensive cost of education indices will improve federal allocation policies. ESEA Title I funds for instance are calculated as a percent of state average per pupil expenditures. The use of state average figures is an attempt to adjust for differences in cost among states. Extrapolation of this methodology for interstate comparisons would provide more precise adjustment mechanisms for federal allocations.

Weightings for Educational Need

In addition to disparities induced by interdistrict cost differentials, intrastate expenditure variations may be justified by

variations across districts in students' educational needs. Weighting schemes, indexing categories of educational need (and cost) in relation to base levels of resources per child, are becoming increasingly attractive to educators and legislators as more rational, systematic means of evaluating interdistrict expenditure disparities while recognizing educational need variations among districts and differentials among school program costs.

One potential benefit of weighting systems is their ability to eliminate much of the bureaucracy of state categorical approaches thus allowing transfers of administrative dollars and/or personnel to program uses. Weighting formulas also make use of easily measurable variables which would in turn produce better audit trails and reduce the fungibility of program funds. Budgeting stability should be increased due to systematization of program fund flows and due to the explicit recognition of differential program costs. But perhaps the most important effect of pupil need weighting is the achievement of horizontal and vertical equities statewide--assuring that all children of similar condition are treated similarly.

Future research into this area should focus on three areas. It should first document the extent to which these and other potential benefits of weighting schemes have actually been realized in states which have implemented weightings; second, determine the distributive impacts of these weightings vis à vis district wealth, income, and other demographic characteristics and whether or not weighting schemes encourage inefficiencies through diseconomies of scale, and third, examine the interface between distribution of Federal categorical aids and the distributions of state dollars generated by weightings for horizontal equity of total resources by program type.

These investigations should be pursued in states with extensive experience with comprehensive weighting schemes. Florida, New Mexico and Utah are likely the best candidate states. A fourth area for investigation, but of lesser magnitude, involves an across-state examination of rationale underlying the different configurations of need that receive weights and the means by which these weights are determined.

Fixed Charges and School Resource Equalization

The thrust of education finance reform has been to equalize educational opportunity in the distribution of resources per child statewide. Whether pursued on fiscal neutrality grounds or by expenditure disparity standards, reform has focused on current expenditure dollars without recognizing that an increasing portion of monies on current account are never realized in student services. State and local pension funds, social security, unemployment compensation insurance, and school liability insurance all make charges on district current accounts and the amounts are rising steadily. The obvious question which as yet has not been addressed is the extent to which disparities in fixed charges across districts undercut state finance reform objectives. Is the equalization of real weighted expenditures per pupil, for instance, synonymous with the equalization of real weighted resources in light of potential variations in fixed charges per pupil?

Public sector retirement systems are encountering increasing insolvencies nationwide. More funds are going out than are coming into retirement plans. California, for instance, has recently committed itself to $300 million in contributions to teacher retirement funds over the next 3 years--this same amount to be matched by the sum of local district contributions. Research is necessary to ascertain the impacts of California's commitment on its progress toward finance reform and, on the fiscal and programatic responses of local districts.

Interaction of Federal, State and Local Education Funds

Intergovernmental fiscal relations in education are becoming a topic of increasing concern especially in light of state efforts to reform their educational finance schemes. Of the $60 billion spent in 1974 on education in the United States, roughly 52 percent was financed by local districts, 7 percent by the federal government and the remaining 41 percent by states. Yet still too little is known about the local fiscal impacts of these intergovernmental transfers. At least four major areas of investigation seem warranted.

The first area of investigation involves a conceptualization of how states view federal education funds in the course of educational

finance. Are federal funds generally or by category endogenous or exogenous to state educational finance? To what extent, if at all, do states make trade offs between general and categorical aids in anticipation of federal receipts?

The second concern involves a conceptualization of how to view the impacts of categorical aids on state finance reform. Does it make sense, for instance, to be concerned about equalizing or anti-equalizing effects of federal and/or state categorical grants (excepting impact aid) in the context of state general programs? Or alternatively should our concerns for categorical aid impacts be focused on inter-district equity by program type? Choosing between these alternative views involves empirical determination of the extent of fungibility of state and federal categorical aids generally and by category. This choice will also dictate appropriate means for conducting distributional analyses i.e., by weighted or unweighted resource.

Third, is an explicit concern for resource equity by program type and involves empirical determination of the degree of complimentarity between state and federal categorical aids across states. Configurations of state categorical programs vary widely. While all states fund handicapped and vocational education programs, not all states provide for compensatory and/or bilingual programs etc. In addition a variety of funding mechanisms are employed across states--excess cost grants, weighting schemes and various formulas. Empirical research must be conducted to determine the interactions between program configurations and funding mechanisms, and equity of services provision by program type. Particular emphasis should be given to the interactions between state pupil need weightings and federal allocations. Additionally, this research should seek to ascertain the degree of complimentarity or supplementarity of state categorical allocations. Do states tend to allocate their categorical funds for extended coverage to students not served by Federal grants (for instance Title I funds) or do states tend to concentrate Federal and State funds in high need areas?

The final question concerns state and local responses to federal aid and the mechanisms and stipulations under which federal aids are

disbursed. The Federal government leverages far more in programmatic expenditures than its 7 or 8 percent share alone would accomplish. What are the opportunity costs to states engendered by compliance with maintenance of effort and non-supplanting clauses and matching requirements for federal funds?

Intradistrict Disparities

Most finance research and reform legislation has focused on school districts as units for comparison and analyses. While this focus is justifiable given governance considerations and fiscal relations, it has caused us to neglect considerations of intradistrict equity. The presumption has been that achievement of equitable resource distributions across districts is tantamount to assuring equal educational opportunities across schools within districts. The filing of several district discrimination suits: Hobson v. Hansen (1967), Smuck V. Hobson (1969), Mission Coalition et al v. San Francisco Unified School District (1970), Braun, Cortez et al v. Board of Education of the City of Chicago (1971), and Bradley v. Milliken (1970), evinces need for intradistrict investigations.

The question of resource equalization among schools raises questions concerning which objectively measurable resources to focus upon. Within most districts schools tend to provide services to one another (e.g., school lunch preparation) and to share some non-instructional professional personnel (e.g., psychologists, counselors, nurses). As a result, total expenditures per pupil by school are hard to ferret out with much accuracy and hence cannot be used as measures of inter-school equity. Recognizing this problem the court in Hobson v. Hansen focused its attention on disparities in teaching expenditures per pupil. But differences in teacher expenditures per pupil within districts are caused by 1) variation across schools in the average levels of training and experience of the teaching staff and 2) variations in average class size--neither of which is largely explicative of variations in educational equality. New research into this area should focus on devising rational programmatic service standards or access standards for evaluating intradistrict equity concerns.

IMPACT ISSUES

Investigation into the impacts of educational finance and reforms are necessary as means of predicting and monitoring both anticipated as well as unintended consequences of new funding mechanisms and legislation. Two impact issues which have not been adequately addressed are 1) the capitalization effects of school finance reform and 2) the impact of finance reform on students and student educational outcomes.

Capitalization Effects of School Finance Reform

School finance reform invariably causes an increase in the state's share of educational expenditures because of its orientation toward "leveling up from the bottom". As a general rule tax rates, liabilities and yields will change across districts depending on the level of equalization achieved and the finance format utilized. In theory, finance reform should bring about changes in the value of housing in reform states in two ways: through a tax effort and a school quality effect.

First, changes in tax rates and liabilities will be capitalized into housing values. In general, high wealth districts enjoying typically high levels of education spending at low tax rates will see greater tax liabilities after reform which, in turn, will be capitalized into their real estate values and cause them to drop due to the present value of the future stream of increased taxes. In low wealth districts previously facing high tax rates, the capitalization effect should result in an increase in property values to the extent of the present value of the future stream of tax savings. The net effect here, other things equal, being a potential narrowing of the variance in assessed valuation per student across the state.

The second capitalization effect occurs to the extent that school quality is considered by prospective home buyers and sellers when considering house values. If finance reform results in increased resources to low wealth areas and decreased resources to high wealth areas, resultant changes in school quality will also be capitalized producing value changes with the same net effect. Low wealth area property values will rise while high wealth area values will decline (or experience slower rates of increase).

Research in this area is warranted to determine long and short run implications of this phenomenon vis à vis its impact on residential and commercial dislocations and mobility, and the gains and losses impact on state populations stratified by income, ethnicity and other characteristics.

Finance Reform and Student Outcomes

Another question deserving of investigation is whether or not and how state school finance reform affects students and student educational outcomes. One of the implicit premises of finance reform and litigation, still unproven, is that dollars make a difference in student cognitive and/or affective outcomes. Estimations of educational production functions have not adequately answered this question except to allow for the possibility that expenditures or specific educational resources (i.e., teacher experience and verbal scores) may have an impact. What seems necessary at this juncture are econometric estimations of what equalization districts tend to purchase with the new state aid dollars and case studies on the effects of these new purchases on school environments and, in turn, on students.

Inextricably tied to these investigations is the question of whether or not and to what extent educational finance reform translates into educational reform. To what extent do programmatic and organizational changes in equalization districts occur in response to increased state aid and how do these changes affect student outcomes?

RESPONSE ISSUES

By response issues we are referring to the behaviors of local education agencies which are induced by changes in funding mechanisms and/or the amounts of general purpose and categorical aids received. Two issues of particular import are 1) the opportunity cost of finance reform and 2) local district responses to finance reform.

Education Reform Opportunity Cost

As students and scholars of educational finance and reform we tend to be too myopic in our views of the world. We have become advocates of education finance reform to the point of neglecting considerations of other local public services--forgetting that they, too, contribute to individual and societal welfare. This is not meant to

suggest that investments be made in attempts to define some grandiose societal welfare function but rather that research be done such that the full price of finance reform be recognized.

In many states, property values are rising much faster than personal income. Local taxation for schools is becoming increasingly burdensome for homeowners.

This, combined with increasing and competing demands for state and local tax dollars, suggest that the price of educational finance reform may continue to rise in terms of public services (and/or individual private consumption and investment) foregone or curtailed. Because fiscal constraints of wealth and income vary across states and municipalities, the impacts of increasing education obligations on the mix of public services will differ across these jurisdictions. The estimation of these differing fiscal responses can be accomplished by stratifying jurisdictions by a fiscal capacity variable e.g., the ratio of personal income to property wealth.

While it is not clear whether this research should be sponsored by NIE or falls under the purview of some other government agency, it should be clear that more must be known about the simultaneity existing in government budgeting processes and government behaviors in trading off public services.

District Responses to Finance Reform

The primary questions to be addressed by research in this area are to what extent districts opt for program expansion vs. property tax relief in reform states, the extent to which these marginal propensities for program expansion are idiosyncratic to various formats for finance reform and/or local wealth and income, and the effects of these local behaviors vis à vis alternative definitions of state finance equity.

MEASUREMENT ISSUES

Measuring Finance Reform

Because of concerns expressed by many reform states for the anti-equalizing impacts of Federal Impact Aid, the federal government is modifying the regulations to allow the counting of impact aid in state equalization formulas provided that states in question can meet certain

reform standards. Ostensibly, this raises the question of what criteria to use in measuring finance reform. The two standards proposed are an expenditure disparity standard and a fiscal neutrality standard.

Research is needed to answer several crucial questions. First, how sensitive are the costs of reform to the levels at which these alternative standards are set and are the savings to the state in displaced equalization aid worth the additional costs of meeting the standard? Second, to what extent do these standards predispose districts to adopt particular reform mechanisms e.g., cost indices and student weightings as opposed to municipal overburden grants and excess cost mechanisms? (Since neither standard takes explicit account of differential educational costs or needs, state equalization and/or neutrality will have to be expressed in terms of real, weighted dollars per pupil in order to meet the standard.) Third, to what extent is either standard more or less appropriate to varying finance formats, i.e., Full State Assumption, District Power Equalizing and Foundation Programs formats, and what are the implications of alternative standards for our ability to compare reform efforts across states? Fourth, are there other standards which should be considered and what are their potential impacts? And, finally is there a single standard which can be devised to allow comparisons across neutrality and disparity reform states?

Alternative Measures of District Wealth

School finance reform, whether motivated by fiscal neutrality or expenditure disparity concerns, has focused solely on property wealth as the variable determining interdistrict transfers and hence has neglected considerations of interdistrict personal income. But personal income is an equally important constraint on districts' fiscal abilities. In many states property values are rising faster than personal income such that district fiscal capacities may be seriously overstated by the property wealth variable standing alone.

Further, because of variations across school districts in residential vs commercial property compositions, the correlation between district wealth and personal income across states is not very high. So while our finance reforms may accomplish neutrality and/or equalization by district wealth they may have very non-neutral, disequalizing

impacts by district income and therefore be less equitable given districts actual fiscal capacities.

Research is warranted here to document the extent to which reforms under various formats are income neutral and/or equalizing and to construct viable indicators of districts' abilities to pay for education--measures which combine both income and property wealth in their constructions.

OTHER AREAS OF RESEARCH

Three additional areas of concern, to which NIE future initiatives should speak, have been pulled out of the above four categories for special emphasis. They are issues concerning: urban education, collective bargaining and special education.

The Urban Question

To this point, the problems inherent to urban education have not been explicitly addressed. It is the opinion of this author that most problems facing urban education are not topically separate from the aforementioned issues. Problems such as the high cost of urban education, the inordinate impacts of disproportionately large numbers of high need students in urban areas and the fiscal capacities of cities are all subsumed under the research areas outlined above.

One urban question which can stand alone (although it is a necessary focus of the Opportunity Cost research earlier outlined) is the question of Municipal Overburden i.e., whether and/or to what extent the relatively greater fiscal demands for non-educational public expenditures in cities impede the funding of urban education. Because of Municipal Overburden (to the extent that it is a real phenomenon) the reform trade off for cities is less likely to be program expansion vs. property tax relief but more likely program expansion vs. property tax displacement i.e., from school to non-school purposes.

Collective Bargaining

The behaviors of teachers' unions in collective negotiations has become a topic of increasing concern to students, scholars and practitioners of education finance and finance reform. Teachers' unions have the potential to impact educational costs in at least three ways:

1) through negotiating average class sizes and other working conditions, 2) through wage negotiations and, 3) through negotiations of fringe benefits. But among these three agenda items there should exist some trade offs. For instance, negative relations should exist between any pair of these issues in negotiations. Increases in the teacher-pupil ratio can be traded off for increases in salaries and likewise with salaries and fringes, and fringes and class size (teacher-pupil ratio).

Previous research, however, has focused entirely on the effects of collective bargaining on teacher wages without considering the simultaneity of these three areas of negotiation. Clearly, additional research is warranted to ascertain the effects of collective bargaining on each of these categories of cost and on total teacher expenditures across districts. Additionally, this research should provide policy guidelines for the proper balancing of district negotiating behaviors between deferred cost items such as improved retirement plans and current cost items such as wages.

Other questions of concern which are sub-foci of previously stated research areas list as follows:

- How does collective bargaining impact on what districts purchase with new state aid dollars?
- How should collective teacher negotiations be reflected in cost of education indices? To what extent will the inclusion of collective bargaining outcomes in the index affect a runaway escalation of teacher costs by passing incremental costs to the state?
- What is the impact of collective bargaining on the teacher fringe benefits portions of district fixed charges?

Cost and Financing of Special Education

The Education for All Handicapped Children Act of 1975 represents a potentially major shift in the federal funding role in education. If fully funded, special education would soon rival the ESEA Title I program for distinctions as the federal government's largest education effort.

The increased funding necessary to this law is driven by a new array of controls affecting services delivery. States must serve "all" handicapped youth and do so "appropriately". Students must be identified and "due process" must be observed. "Individualized education programs" must be developed and services must be provided in the "least restrictive environment". Two questions of immediate concern here are: How much will the new program cost? and, How should it be funded?

Research into the cost of special education must be performed by handicapping conditions and by resource configurations within handicapping conditions. The design for each project must pay specific attention to questions of:

- Controlling for severity within handicapping conditions.
- Controlling for differentials in input costs.
- Sampling among exemplary programs or at random.
- Devising appropriate cost models with decision rules for handling shared and/or imputed costs.
- Determining the extent to which economies of scale are achieved in highly impacted areas with policy recommendations for desired levels of consolidation, and
- Determining cost sensitivity to alternate regulatory definitions of what constitutes an "appropriate" education by handicapping conditions.

Research in the funding of special education should focus upon:

- The impact on local initiative over time of shifting the locus of control to the federal and state levels.
- Providing horizontal equity across handicapping conditions, and
- The interface between alternative federal funding formulas and state funding mechanisms for special education, particularly weighting schemes.

COMPARATIVE LEVELS OF COMMITMENT

The preceding pages have attempted to outline viable directions for future NIE initiatives in education finance. All of the issues presented can best be approached through contract research. Of these proposed projects, however, some are amenable to short term exploratory research contracts while others are empirical and suggest either moderate or large scale commitments.

Of the short term exploratory variety are the following topics:

- Cost of Education Indices
- Fixed Charges and School Resource Equalization
- Intradistrict Disparities
- Alternative Measures of District Wealth, and
- Measuring Finance Reform

The long-term and/or large-scale projects include:

- The Interaction of Federal State and Local Education Funds
- Finance Reform and Student Outcomes
- Opportunity Cost and Finance Reform
- The Capitalization Effects of Finance Reform
- The Cost of Special Education
- Collective Bargaining, and
- Weightings for Educational Need

On a more moderate scale would be contracts to investigate:

- District Responses to Finance Reform, and
- Urban Education and Municipal Overburden